

WHAT IS CLAIMED IS:

1. A gas fitting interlock apparatus comprising:
a pedestal portion;
a fitting support portion disposed on the pedestal portion;
an interlock nut clamp configured to be fastened to the fitting support portion;
and
a fastener for fastening the interlock nut clamp to the fitting support portion,
the fastener being capable of being tightened to a tightness equal to or
greater than a predetermined tightness sufficient to clamp a gas line
disposed between the interlock nut clamp and the pedestal portion.
2. The apparatus of claim 1, further comprising:
a momentary switch disposed within the pedestal portion, wherein the
momentary switch is
closed when the fastener is tightened to a tightness equal to or greater
than the predetermined tightness sufficient to clamp the gas line
disposed between the interlock nut clamp and the pedestal
portion and
open when the fastener is not tightened to a tightness equal to or
greater than the predetermined tightness sufficient to clamp the
gas line disposed between the fitting support portion and the
pedestal portion.

3. The apparatus of claim 2 further comprising:
a first circuit including
a first power source and
at least one indicator, wherein the at least one indicator is operably
coupled to the momentary switch and the first power source
such that the at least one indicator
presents an indication when the momentary switch is closed
and
does not present an indication when the momentary switch is
not closed; and
a second circuit including a second power source, wherein
the second circuit is operably coupled to the momentary switch and the
second power source such that the second circuit is
closed when the momentary switch is closed and
open when the second circuit is open and
the second circuit is capable of being operably coupled to circuitry of
equipment to which the gas fitting interlock apparatus is
capable of being operably coupled, such that when the
apparatus is operably coupled to the equipment and the second
circuit is operably coupled to the equipment circuitry, the
equipment is prevented from operating when the momentary
switch is open.

4. The apparatus of claim 3, wherein the at least one indicator is an at
least one light-emitting diode.

5. The apparatus of claim 3, wherein the momentary switch includes
a first contact by which the momentary switch is operably coupled to the at
least one indicator;
a second contact by which the momentary switch is operably coupled to the
first circuit voltage source;
a third contact by which the momentary switch is operably coupled to the
pedestal portion and the fitting support portion; and
a fourth contact by which the momentary switch is operably coupled to an
input/output interlock return, wherein the input/output interlock return
is operably coupled to the second circuit power source.

6. An apparatus for atmosphere chemical vapor deposition, the apparatus
comprising:
a gas fitting interlock apparatus including
a pedestal portion;
a fitting support portion disposed on the pedestal portion;
an interlock nut clamp configured to be fastened to the fitting support
portion; and
a fastener for fastening the interlock nut clamp to the fitting support
portion, the fastener being capable of being tightened to a
tightness equal to or greater than a predetermined tightness
sufficient to clamp a gas line disposed between the interlock
nut clamp and the pedestal portion.

7. The apparatus of claim 6, wherein the gas fitting interlock apparatus further includes a momentary switch disposed within the pedestal portion, wherein the momentary switch is closed when the fastener is tightened to a tightness equal to or greater than the predetermined tightness sufficient to clamp the gas line disposed between the interlock nut clamp and the pedestal portion and open when the fastener is not tightened to a tightness equal to or greater than the predetermined tightness sufficient to clamp the gas line disposed between the fitting support portion and the pedestal portion.

8. The apparatus of claim 7, further comprising: a first circuit including a first power source and at least one indicator, wherein the at least one indicator is operably coupled to the momentary switch and the first power source such that the at least one indicator presents an indication when the momentary switch is closed and does not present an indication when the momentary switch is not closed; and a second circuit including a second power source, wherein the second circuit is operably coupled to the momentary switch and the second power source such that the second circuit is closed when the momentary switch is closed and open when the second circuit is open and the second circuit is capable of being operably coupled to circuitry of equipment to which the gas fitting interlock apparatus is capable of being operably coupled, such that when the apparatus is operably coupled to the equipment and the second

20 circuit is operably coupled to the equipment circuitry, the
 21 equipment is not capable of operating when the momentary
 22 switch is open.

1 9. The apparatus of claim 8, wherein the at least one indicator is an at
 2 least one light-emitting diode.

1 10. The apparatus of claim 8, wherein the momentary switch includes
 2 a first contact by which the momentary switch is operably coupled to the at
 3 least one indicator;
 4 a second contact by which the momentary switch is operably coupled to the
 5 first circuit voltage source;
 6 a third contact by which the momentary switch is operably coupled to the
 7 pedestal portion and the fitting support portion; and
 8 a fourth contact by which the momentary switch is operably coupled to an
 9 input/output interlock return, wherein the input/output interlock return
 10 is operably coupled to the second circuit power source.

1 11. A method for using a gas fitting connection, the method comprising:
 2 inserting a gas line into an interlock component for receiving the gas line, the
 3 interlock component including a momentary switch;
 4 tightening the interlock component to a tightness equal to or greater than a
 5 predetermined tightness sufficient to clamp the gas line, the tightness
 6 to which the interlock component is tightened enabling the momentary
 7 switch to close;
 8 presenting an indication when the momentary switch is closed; and
 9 preventing gas from flowing through the gas line when the momentary switch
 10 is open.

1 12. The method of claim 11, wherein the interlock component further
 2 includes
 3 a pedestal portion;
 4 a fitting support disposed on the pedestal portion;

an interlock nut clamp configured to be fastened to the fitting support portion;
and
a fastener for fastening the interlock nut clamp to the fitting support portion.

13. The method of claim 12, wherein the interlock component further includes
a momentary switch disposed within the pedestal portion, wherein the momentary switch is
closed when the fastener is tightened to a tightness equal to or greater than the predetermined tightness sufficient to clamp the gas line disposed between the interlock nut clamp and the pedestal portion and
open when the fastener is not tightened to a tightness equal to or greater than the predetermined tightness sufficient to clamp the gas line disposed between the fitting support portion and the pedestal portion.

14. The method of claim 13, wherein
the presenting an indication is performed by a first circuit including
a first power source and
at least one indicator, wherein the at least one indicator is operably coupled to the momentary switch and the first power source such that the at least one indicator presents an indication when the momentary switch is closed
and
does not present an indication when the momentary switch is not closed; and
the preventing is performed by a second circuit including a second power source, wherein
the second circuit is operably coupled to the momentary switch and the second power source such that the second circuit is closed when the momentary switch is closed and open when the second circuit is open and

the second circuit is capable of being operably coupled to circuitry of equipment to which the gas fitting interlock apparatus is capable of being operably coupled, such that when the apparatus is operably coupled to the equipment and the second circuit is operably coupled to the equipment circuitry, the equipment is not capable of operating when the momentary switch is open.

15. The method of claim 14, wherein the at least one indicator is an at least one light-emitting diode.

16. The method of claim 14, wherein the momentary switch includes a first contact by which the momentary switch is operably coupled to the at least one indicator; a second contact by which the momentary switch is operably coupled to the first circuit voltage source; a third contact by which the momentary switch is operably coupled to the pedestal portion and the fitting support portion; and a fourth contact by which the momentary switch is operably coupled to an input/output interlock return, wherein the input/output interlock return is operably coupled to the second circuit power source.

17. An apparatus comprising:
means for receiving a gas line into an interlock component, the interlock component including a momentary switch;
means for tightening the interlock component to a tightness equal to or greater than a predetermined tightness sufficient to clamp the gas line, the tightness to which the interlock component is tightened enabling the momentary switch to close;
means for presenting an indication when the momentary switch is closed; and
means for preventing gas from flowing through the gas line when the momentary switch is open.